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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	A Paradian No	1 4 10 27 3			
	Application No.	Applicant(s)			
Office A-4'	10/643,805	KYUMA, KENJI			
Office Action Summary	Examiner	Art Unit			
·	John M. Villecco	2622			
The MAILING DATE of this communication Period for Reply	n appears on the cover sheet w	ith the correspondence address			
A SHORTENED STATUTORY PERIOD FOR RI WHICHEVER IS LONGER, FROM THE MAILIN - Extensions of time may be available under the provisions of 37 CF after SIX (6) MONTHS from the mailing date of this communicatio - If NO period for reply is specified above, the maximum statutory p - Failure to reply within the set or extended period for reply will, by s Any reply received by the Office later than three months after the r earned patent term adjustment. See 37 CFR 1.704(b).	G DATE OF THIS COMMUNION FR 1.136(a). In no event, however, may a rent n. eriod will apply and will expire SIX (6) MON statute, cause the application to become AF	CATION. reply be timely filed ITHS from the mailing date of this communication. BANDONED (35 U.S.C. § 133).			
Status	•				
1) Responsive to communication(s) filed on 1	14 June 2007				
,	Since this application is in condition for allowance except for formal matters, prosecution as to the merits is				
closed in accordance with the practice und		•			
Disposition of Claims					
 4) Claim(s) 1-38 is/are pending in the application 4a) Of the above claim(s) is/are with 5) Claim(s) 35-38 is/are allowed. 6) Claim(s) 1-31,33 and 34 is/are rejected. 7) Claim(s) 32 is/are objected to. 8) Claim(s) are subject to restriction and claim are subject to restriction and claim are subject to restriction are subject to restriction are subject to restriction are subject are subject 	ndrawn from consideration.				
Application Papers	4				
9) The specification is objected to by the Exam 10) The drawing(s) filed on 18 August 2003 is/s Applicant may not request that any objection to Replacement drawing sheet(s) including the co	are: a) accepted or b) ob the drawing(s) be held in abeyar prrection is required if the drawing	nce. See 37 CFR 1.85(a). (s) is objected to. See 37 CFR 1.121(d).			
Priority under 35 U.S.C. § 119		•			
12) Acknowledgment is made of a claim for for a) All b) Some * c) None of: 1. Certified copies of the priority document of the certified copies of the priority document of the certified copies of the application from the International But * See the attached detailed Office action for a second of the certified copies of the application from the International But * See the attached detailed Office action for a second of the certified copies of the application from the International But * See the attached detailed Office action for a second of the certified copies of the priority document of the certified copies of the certified copies of the certified copies of the application from the International But * See the attached detailed Office action for a second of the certified copies of the certified copies of the application from the International But * See the attached detailed Office action for a second of the certified copies of the certified co	nents have been received. nents have been received in A priority documents have been ureau (PCT Rule 17.2(a)).	application No. <u>09/208,546</u> . received in this National Stage			
Attachment(s) 1) Notice of References Cited (PTO-892)	4) ☐ Interview S	Summary (PTO-413)			
 Notice of Preferences Offed (*10-032) Notice of Draftsperson's Patent Drawing Review (PTO-948) Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 	Paper No(s	sofilinary (F10-413) s)/Mail Date nformal Patent Application			

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DETAILED ACTION

Response to Arguments

- 1. Applicant's arguments filed June 14, 2007, regarding claims 1-19 in view of the Kaneda reference (Japanese. Publ. No. 09-243899 A), have been fully considered but they are not persuasive. Regarding independent claims 1, 4, 10, 18, and 19, applicant has amended the claims to more clearly define their invention in view of the Kaneda reference. On page 23 applicant argues that Kaneda differs from their invention in that the amended claims disclose that the control information from the external image device is not only based on the zooming position information sent from the variator lens means but also based on the zoom operation information produced by a zooming operation at the external image device. However, the examiner disagrees with this characterization of Kaneda. More specifically, Kaneda discloses an embodiment in which the camera microcontroller (409) controls the zooming action which takes place on the side of the photo-taking lens (418), based on information sent from the lens microcomputer (408). See column 17, lines 14-38. Kaneda discloses that the communication for controlling the operation of the lens takes place by communication between camera microcomputer (409) and the lens microcomputer (408). For the above reasons, the rejection of claims 1-19 based on the Kaneda reference will be repeated.
- 2. The indicated allowability of claims 20-34 is withdrawn in view of the newly discovered reference(s) to Ohkawara (U.S. Patent No. 6,731,339). Rejections based on the newly cited reference(s) follow. Accordingly, *this action is non-final* due to the new grounds of rejection presenting in this office action. The examiner apologizes for the delay in prosecution.

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Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

- 4. <u>Claims 1-16, 18, and 19 are rejected under 35 U.S.C. 102(a) as being anticipated by Kaneda (Japanese Publ. No. 09-243899 A).</u>
- 5. Regarding *claim 1*, Kaneda discloses a variator lens (112) and a manual ring zooming member (506) for operating the variator lens (112), and a contact block for facilitating communication between a camera body (419) and interchangeable lens (418). Kaneda discloses that the lens microcomputer (410) and the camera microcomputer (409) exchange various signals through the contact block (col. 12, lines 64-65). Inherently, the contact block would have an information input means and information output means for sending and receiving the information from the camera microcomputer (409). When the zoom ring has reached a telephoto side, the electronic zoom function is started in the camera. Thus, the camera has to inherently receive position information from the lens. Additionally, the user can operate the zoom from the camera side using zoom operation means (157). Therefore, the contact block acts as both the information output means and the information input means. Additionally, the variator lens group driving means (145) drives the lens group according to operation signals generated by the lens microcomputer, based on the inputted control information. Kaneda discloses an embodiment in which the camera microcontroller (409) controls the zooming action which takes place on the

side of the photo-taking lens (418), based on information sent from the lens microcomputer (408). More specifically, the lens microcomputer (408) sends information indicating an operating condition of the zoom ring (506) and the position information and the camera microcomputer (409) operates to communicate with the lens microcomputer to move the variator lens. See column 17, lines 14-38. Furthermore, The examiner is using the U.S Patent No. 5,973,857, which claims priority to Japanese Publ. No. 09-243899 A, when discussing various reference numbers and citations, since it is assumed that they are identical. An official translation of Japanese Publ. No. 09-243899 A has been ordered for use in subsequent office actions.

- 6. As for *claim 2*, Kaneda discloses that the information for moving the lens is information on a direction and speed of the external variator lens means. See column 13, lines 40-66.
- 7. With regard to *claim 3*, when the variator lens is placed at the tele end, the electronic zoom kicks in. See column 14, line 62 to column 15, line 40. Inherently, in order for the electronic zoom to begin working the information from the lens has to be output. Also, see column 16, lines 56-60.
- 8. Regarding *claim 4*, Kaneda discloses a CCD (151) for imaging an object and outputting an imaging signal, a manual ring zooming member (506) for zooming the interchangeable lens (418), a zoom operation means (157) for operating zoom from the camera side, and a contact block for facilitating communication between the camera and interchangeable lens. Kaneda discloses that the camera microcomputer (409) receives operating information, and zoom position information from the lens microcomputer (410). See column 17, lines 14-39. Inherently, the contact block would have an information input means for receiving the

information from the lens microcomputer (410). The zoom operation means (157) is used to supply internal zoom operating information. Since the camera microcomputer is used to control the zooming operation of the interchangeable lens, it would inherently have an information output means. Furthermore, the system of Kaneda operates to control the zooming operation based upon external zoom operating information and the internal zoom operating information. Kaneda discloses an embodiment in which the camera microcontroller (409) controls the zooming action which takes place on the side of the photo-taking lens (418), based on information sent from the lens microcomputer (408). More specifically, the lens microcomputer (408) sends information indicating an operating condition of the zoom ring (506) and the position information and the camera microcomputer (409) operates to communicate with the lens microcomputer to move the variator lens. See column 17, lines 14-38. The examiner is using the U.S Patent No. 5,973,857, which claims priority to Japanese Publ. No. 09-243899 A, when discussing various reference numbers and citations, since it is assumed that they are identical. An official translation of Japanese Publ. No. 09-243899 A has been ordered for use in subsequent office actions.

- 9. As for claim 5, Kaneda discloses the use of an electronic zoom circuit (502) for electronically zooming the image signal. The camera microcomputer (409) serves as the electronic zooming control means.
- 10. With regard to *claim* 6, Kaneda discloses that the information for moving the lens is information on a direction and speed of the external variator lens means. See column 13, lines 40-66.

- 11. Regarding *claim* 7, Kaneda discloses that once the optical zooming reaches a tele end the electronic zoom takes over and performs electronic zooming. See Figures 10A-10C and column 15, lines 13-44. Also, see column 16, lines 56-60.
- 12. As for *claim 8*, Kaneda discloses that when the ring member (506) and zoom switch (157) are operated simultaneously the operation of the ring member (506) would be given priority. In this case the zoom ring provides the first zoom operating information and the operating switch provides the second zoom operating information. See column 15, line 66 to column 16, line 4.
- 13. With regard to *claim 9*, Kaneda discloses that the order of precedence stated above in claim 8 can be interchanged. See column 16, lines 2-4.
- 14. Regarding *claim 10*, Kaneda discloses a camera (419) having an interchangeable lens (418). The lens includes a variator lens (112) for performing a zooming operation, a manual zoom ring (506) disposed on the lens for moving the variator lens, a contact block which inherently includes a lens-side information output means and a lens-side information input means, a variator lens group driving means (145) for controlling the zooming operation of the variator lens means according to the received control information. The camera body includes a CCD (151) for imaging an object, a contact block which inherently would include a camera-body-side information input means and a camera-body-side output means for controlling the optical zooming. The camera-body-side also includes a camera microcomputer (409) for receiving the operating information to be supplied to the variator lens means. The camera microcomputer uses the inputs of the zoom operation member (157) and the information received from the interchangeable lens to control the optical zooming operation. Kaneda

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discloses an embodiment in which the camera microcontroller (409) controls the zooming action which takes place on the side of the photo-taking lens (418), based on information sent from the lens microcomputer (408). More specifically, the lens microcomputer (408) sends information indicating an operating condition of the zoom ring (506) and the position information and the camera microcomputer (409) operates to communicate with the lens microcomputer to move the variator lens. See column 17, lines 14-38. The examiner is using the U.S Patent No. 5,973,857, which claims priority to Japanese Publ. No. 09-243899 A, when discussing various reference numbers and citations, since it is assumed that they are identical. An official translation of Japanese Publ. No. 09-243899 A has been ordered for use in subsequent office actions.

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- 15. As for *claim 11*, Kaneda discloses the use of an electronic zoom circuit (502) for electronically zooming the image signal. The camera microcomputer (409) serves as the electronic zooming control means.
- 16. With regard to *claim 12*, Kaneda discloses that the information for moving the lens is information on a direction and speed of the external variator lens means. See column 13, lines 40-66.
- 17. Regarding claim 13, when the variator lens is placed at the tele end, the electronic zoom kicks in. Inherently, in order for the electronic zoom to begin working the information from the lens has to be output.
- As for claim 14, Kaneda discloses that once the optical zooming reaches a tele end the 18. electronic zoom takes over and performs electronic zooming. See Figures 10A-10C and column 15, lines 13-44.

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19. Regarding *claim 15*, Kaneda discloses that when the ring member (506) and zoom switch

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(157) are operated simultaneously the operation of the ring member (506) would be given

priority. In this case the zoom ring provides the first zoom operating information and the

operating switch provides the second zoom operating information. See column 15, line 66 to

column 16, line 4.

20. With regard to claim 16, Kaneda discloses that the order of precedence stated above in

claim 8 can be interchanged. See column 16, lines 2-4.

21. Claim 18 is considered substantively equivalent to claim 1, with the added limitation in

the preamble of storing a program on a computer readable medium for performing the claimed

method steps. Please see the discussion of claim 1 on the preceding pages. Additionally, it is

inherent that the microcomputer of the lens includes a program for carrying out the claimed

steps.

22. Claim 19 is considered substantively equivalent to claim 4, with the added limitation in

the preamble of storing a program on a computer readable medium for performing the claimed

method steps. Please see the discussion of claim 4 on the preceding pages. Additionally, it is

inherent that the microcomputer of the camera includes a program for carrying out the claimed

steps.

Claim Rejections - 35 USC § 102

23. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

24. Claims 20-31, 33, and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Ohkawara (U.S. Patent No. 6,731,339).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding *claim 20*, Ohkawara discloses an image pickup apparatus with a detachable lens device. More specifically Ohkawara discloses a lens device (lens unit, 127) including a variator lens means (variator lens, 102), a zoom operating means (zoom ring, 601), and a variator control means (lens microcomputer, 116) for controlling a zooming operation of the variator lens means (variator lens, 102). Ohkawara's invention deals with how the optical zoom and electrical zoom functions interact. The optical zoom using the variator lens is located in the lens unit and the electronic zooming control part is located in the camera body. The interaction between the lens and camera will be described. The camera body microcomputer (114) operates to receive information on the position of the variator lens (102) and the operated state of the zoom ring (601). See column 19, lines 9-12. This is interpreted to means that the lens device outputs first zoom operating information and zoom position information, as claimed. Additionally, Ohkawara discloses an embodiment in which the camera microcomputer (114) outputs first zoom operating

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information (information on the zoom switch, 130) and zoom inhibition information from an external device (camera body, 128) to the lens microcomputer (116). See column 17, lines 25-31. Furthermore, Ohkawara discloses that the variator lens can be controlled using the zoom switch (130) on the camera body. See column 17, line 40. Therefore, based on whether or not the zoom ring (601) is operated, zoom information from the zoom switch (130) is input, and zoom inhibition information, the variator lens is operated to control a zooming operation.

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- 26. As for claim 21, Ohkawara discloses that both the first and second zoom operating information includes information on a direction and a speed of the variator lens means. See column 17, line 50 to column 18, line 59.
- 27. With regard to *claim 22*, Ohkawara discloses that when the variator lens is at a tele end, electronic zooming is performed in camera body. See column 19, lines 32-50.
- 28. Regarding claim 23, Ohkawara discloses that zooming operation member on the lens side is given precedence over the zooming operation member on the camera side. See column 17, lines 25-40.
- 29. As for *claim 24*, Ohkawara discloses an image pickup apparatus with a detachable lens device. More specifically Ohkawara discloses a camera apparatus including an imaging means (CCD's, 106-108), a zoom operating means (zoom switch, 130), an electronic zooming means (interpolation circuit, 135) and electronic zooming control means (electronic zooming control part, 133). Ohkawara's invention deals with how the optical zoom and electrical zoom functions interact. The optical zoom using the variator lens is located in the lens unit and the electronic zooming control part is located in the camera body. The interaction between the lens and camera will be described. The camera body microcomputer (114) operates to receive

information on the position of the variator lens (102) and the operated state of the zoom ring (601). See column 19, lines 9-12. Additionally, Ohkawara discloses an embodiment in which the camera microcomputer (114) outputs first zoom operating information (information on the zoom switch, 130) and zoom inhibition information from an external device (camera body, 128) to the lens microcomputer (116). See column 17, lines 25-31. Furthermore, Ohkawara discloses that the variator lens can be controlled using the zoom switch (130) on the camera body. See column 17, line 40. Therefore, based on whether or not the zoom ring (601) is operated, zoom information from the zoom switch (130) is input, and zoom inhibition information, the electronic zooming means is operated to control a zooming operation. See column 19, line 5 to column 21, line 15.

- 30. With regard to *claim 25*, Ohkawara discloses that both the first and second zoom operating information includes information on a direction and a speed of the variator lens means. See column 17, line 50 to column 18, line 59.
- 31. Regarding *claim 26*, Ohkawara discloses that when the variator lens is at a tele end, electronic zooming is performed in camera body and optical zoom is inhibited. See column 19, lines 32-50.
- 32. As for *claim 27*, Ohkawara discloses that zooming operation member on the lens side is given precedence over the zooming operation member on the camera side. See column 17, lines 25-40.
- 33. With regard to *claim 28*, Ohkawara discloses an image pickup apparatus with a detachable lens device. More specifically Ohkawara discloses a lens device (lens unit, 127) including a variator lens means (variator lens, 102), a lens-side zoom operating means (zoom

ring, 601), and a variator control means (lens microcomputer, 116) for controlling a zooming operation of the variator lens means (variator lens, 102). Additionally, Ohkawara discloses a camera apparatus including an imaging means (CCD's, 106-108), a camera body side zoom operating means (zoom switch, 130), an electronic zooming means (interpolation circuit, 135) and electronic zooming control means (electronic zooming control part, 133). Ohkawara's invention deals with how the optical zoom and electrical zoom functions interact. The optical zoom using the variator lens is located in the lens unit and the electronic zooming control part is located in the camera body. The interaction between the lens and camera will be described. The camera body microcomputer (114) operates to receive information on the position of the variator lens (102) and the operated state of the zoom ring (601). See column 19, lines 9-12. This is interpreted to means that the lens device outputs first zoom operating information and zoom position information, as claimed. Additionally, Ohkawara discloses an embodiment in which the camera microcomputer (114) outputs first zoom operating information (information on the zoom switch, 130) and zoom inhibition information from an external device (camera body, 128) to the lens microcomputer (116). See column 17, lines 25-31. Furthermore, Ohkawara discloses that the variator lens can be controlled using the zoom switch (130) on the camera body. See column 17, line 40. Therefore, based on whether or not the zoom ring (601) is operated, zoom information from the zoom switch (130) is input, and zoom inhibition information, the variator lens is operated to control a zooming operation.

34. Regarding *claim 29*, Ohkawara discloses that both the first and second zoom operating information includes information on a direction and a speed of the variator lens means. See column 17, line 50 to column 18, line 59.

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35. As for *claim 30*, Ohkawara discloses that when the variator lens is at a tele end, electronic zooming is performed in camera body and optical zoom is inhibited. See column 19, lines 32-50.

- 36. With regard to *claim 31*, Ohkawara discloses that zooming operation member on the lens side is given precedence over the zooming operation member on the camera side. See column 17, lines 25-40.
- 37. Claim 33 is considered substantively equivalent to claim 20, with the added limitation in the preamble of storing a program on a computer readable medium for performing the claimed method steps. Please see the discussion of claim 1 on the preceding pages. Additionally, it is inherent that the microcomputer of the lens includes a program for carrying out the claimed steps.
- 38. Claim 34 is considered substantively equivalent to claim 24, with the added limitation in the preamble of storing a program on a computer readable medium for performing the claimed method steps. Please see the discussion of claim 1 on the preceding pages. Additionally, it is inherent that the microcomputer of the lens includes a program for carrying out the claimed steps.

Claim Rejections - 35 USC § 103

39. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

40. <u>Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneda</u>
(Japanese Publ. No. 09-243899 A) in view of Mabuchi et al. (U.S. Patent No. 5,485,208).

41. Regarding *claim 17*, as mentioned above in the discussion of claim 10 above, Kaneda discloses all of the limitations of the parent claim. However, Kaneda fails to disclose that the transmission is nearly equal to a cycle of a standard television synchronization signal. Mabuchi, on the other hand, discloses that it is well known in the art to perform communication between the lens and the camera. Mabuchi discloses a lens assembly (1) and a camera assembly (2) in which the lens assembly is interchangeable. Communication between the lens assembly and the camera assembly is done in synchronism with the vertical synchronization signal. By performing communication within a vertical synchronization period it is possible to achieve highly reliable control which is free of malfunction (col. 26, lines 54-58). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the lens and the camera to communicate during a cycle equivalent to a vertical sync pulse so that communication is highly reliable and free of malfunction.

Allowable Subject Matter

42. Claim 32 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

43. Claims 35-38 are allowed.

44. The following is an examiner's statement of reasons for allowance:

With regard to claim 35, the primary reason for allowance is that the prior art fails to teach or reasonably suggest that when the electronic variator means is operated the first device inhibits the optical variator means from operating.

Regarding claim 36, 37, and 38, the primary reason for allowance is that the prior art fails to teach or reasonably suggest that when the electronic variator means is operated, a signal causing the lens device to inhibit the optical variator lens from operating is transmitted to the lens device.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Villecco whose telephone number is (571) 272-7319. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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John M. Villecco

Primary Examiner, Art Unit 2622

August 9, 2007